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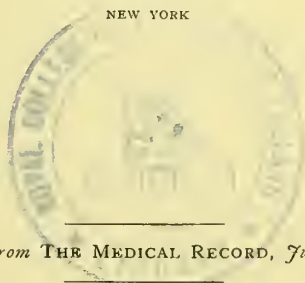
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THE ISCHIATIC CRUTCH

BY

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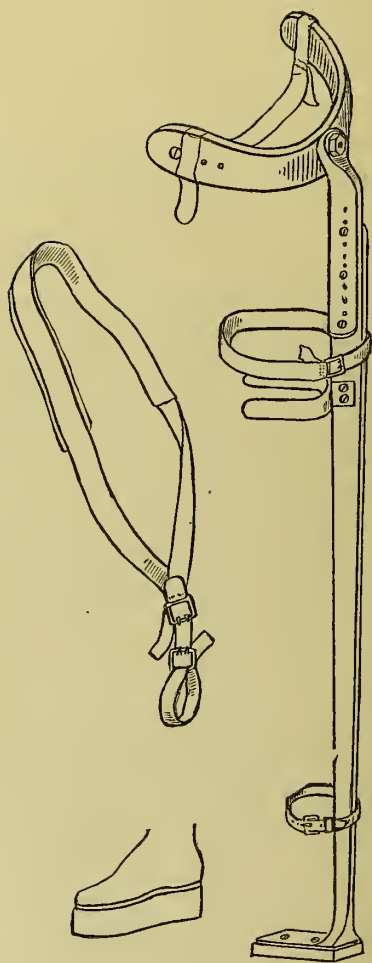


THE ISCHIATIC CRUTCH.

THIS apparatus is for use in the treatment of deformities and diseases of the joints of the lower extremities. By converting the affected limb into a pendent member it removes from it the weight of the body in standing and walking. This is not a new idea in surgery,¹ but the importance of the subject leads me to describe in detail an instrument which an experience of two years has shown to be easily adjusted, conveniently worn, and, with the aid of a high sole on the well foot, entirely competent to keep the weight of the body from falling on the affected limb when the patient is up and active.

The frequent occurrence of hip disease and white swelling of the knee, and the rarity of a similar condition in the shoulder and elbow, would support the theory of the traumatic etiology of joint-diseases, if it were not for the fact that the primary lesion in articular osteitis is a central focus which could hardly be produced by traumatism. It is not improbable, therefore, that the comparative exemption of the upper extremity from destructive joint-disease is to be explained by the supposition that a focus in the cancellous tissue may undergo spontaneous resolution

¹ See a paper on The Question of Axillary or Ischiatic Support in the Treatment of Joint-diseases of the Lower Extremity, *MEDICAL RECORD*, pp. 1-3, July 2, 1882.



when exempt from disturbance in a pendent member, and may be expected to become progressive when exposed to the violence which habitually assaults the bony tissue of the lower extremity.

In the orthopædic institutions of this city, as shown in their annual reports, cases of disease of the larger joints were treated in 1885 in the following numbers: Hip, 564; knee, 258; shoulder, 9; elbow, 10. It may be said that cases involving the shoulder and elbow are more likely to seek relief in general rather than in orthopædic charities. Notwithstanding this, and perhaps other reasons, for discrediting the apparent force of these figures, it is believed that they represent a fact of practical importance, from which the inference is fairly drawn that in certain cases of osteitis of the hip and knee the persistent use of the ischiatic crutch, from the early incipency of the disease, would lead to recovery before the appearance of the severer symptoms. Indeed, in those cases of incipient hip disease which recover with unimpaired symmetry and function under treatment by the hip-splint, it is impossible to say whether the good result is due to the use of the splint as an apparatus for applying traction or to its use as a crutch, for the hip-splint, with its rack and pinion and adhesive plaster, is as truly an ischiatic crutch as the simpler apparatus here described, provided its upright and pelvic bands are sufficiently inflexible to keep the weight of the patient from bringing his heel to the ground.

The ischiatic crutch is represented in the figure, which requires but a few words of description. The perineal strap, which is a bit of Allien's webbing covered with

blanketing and canton flannel, has a loop at each end, which passes over the screw by which it is kept in place. By loosening the nut the pelvic band, which has the outline of a semi-circular arch on low piers, may be adjusted at the desired angle with the upright, where it should be fixed by tightening the nut. The head of the screw-bolt is counter-sunk, and the screw-holes, of which there are three at each end of the band for the proper adjustment of the perineal strap, are "upset" by a few blows with a riveting hammer on the inner surface of the steel band before it is covered with hard rubber. The **U**-shaped steel-piece and the webbing retentive strap find their proper place a short distance above the knee, while the leather strap is loosely buckled above the ankle. The patient's head and the arm of the affected side pass through the large loop of the shoulder-strap, while the upright passes through the small loop which comes up on the inner side of the pelvic band. This part of the apparatus is to be so adjusted that when the splint is raised in walking its weight is felt on the opposite shoulder. The upright is shod with sole-leather. Its length is readily altered, and the perineal strap should be of such a length as to make the pelvic band fall on a level midway between the anterior iliac spine and the great trochanter.

In a case presented before the Surgical Section of the New York Academy of Medicine on May 9, 1887, the patient was a boy, ten years of age, in whom the left knee had been the seat of chronic osteitis for a year and a half. Since the application of the crutch in December, 1886, the disease has been quiescent, and probably

progressing toward recovery. The boy is 4 feet 2 inches in height, and weighs 51 pounds without the splint. The apparatus complete weighs $2\frac{3}{4}$ pounds. The pelvic band is 6 inches in diameter, and is made of a steel bar $\frac{3}{16} \times \frac{14}{16} \times 12$ inches, covered with hard rubber. The perineal strap is 9 inches long. The bars composing the upright are $1 \times \frac{3}{16}$ inch. The upright as worn is $28\frac{1}{2}$ inches in length, and the distance from the pelvic band to the knee-piece is 9 inches. The high sole is $2\frac{1}{2}$ inches thick. The cost of the steel, finished with great care and electro-plated, and the hard-rubber work was \$14.25. This expense could be materially reduced at the sacrifice of elegance, without impairing the efficiency of the apparatus, and, with less nicety in construction and at the sacrifice of some convenience on the part of both the surgeon and the patient, the cost could be reduced to but little more than a nominal sum. The boy has attended school without interruption since its application, and from the first has walked, without a complaint and with evident convenience, from his home to the out-patient department of the hospital, a distance of one and three-fourths of a mile. He removes the crutch at night.

I first used this form of apparatus in convalescing cases of hip disease, when traction and fixation were no longer required. In the treatment of white swelling of the knee it has conveniently taken the place of Thomas' splint, and is to be worn only when the patient is out of bed, fixation of the joint being maintained by an independent splint which is constantly worn. In both of these classes of cases the results have been entirely satisfactory. The ischiatic crutch would doubtless be use-

ful in the treatment of disease of the ankle-joint and un-united fracture of the shaft of the femur and, probably, in fracture of the femoral neck, as well as in cases of osteitis of the lower extremities not directly associated with a joint. In cases of resistant club-foot the removal of the weight of the body from the affected foot by the use of this apparatus, during certain stages of the treatment, would obviously facilitate reduction.

~~42 EAST TWENTY-FIRST STREET.~~

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